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by

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THE Royal Ontario Museum of Archaeology, Toronto, Canada, although young in years, is unusually rich in the possession of material which illuminates the private life of the Romans in its most intimate daily detail. The opportunity which this museum affords, in the Walter Massey collection, to examine tapestries, towels, sandals and tunics which were used and worn nearly two thousand years ago; to see the hairpins, toilet boxes, mirrors, jewelry, the weaving material and the beautifiers of the ancient Roman lady; to study children's dolls, balls, games and dishes; certainly brings one closer in spirit to the men, women and children who once owned these things, and impresses one with the modernity of the ancients. By no means least of the Museum's treasures, in their importance to the ancient Roman, and, I hope, still of some interest to us today, are the many excellent examples of Roman cooking utensils. These show us that in many respects the cooking utensils of antiquity were the direct ancestors of those of today. Time and experience have enabled us to improve even on the practical Romans from the point of view of utility; yet, with the exception of the fireless cooker, aluminum ware and electrical appliances, there are few modern utensils which were not found in an ancient kitchen.

The commonest and also probably the earliest of Roman cooking utensils is the wide-mouthed terra-cotta bowl, *olla* or *caccabus*, in which porridge, vegetables, meat and fowl were cooked. A cooking pot in the Royal Ontario Museum of Archaeology, (G. 1733), is fairly typical of this style. It is made of terra-cotta and measures 8¾ inches across the mouth. The type has remained permanent and is the direct ancestor of the vessel in which the famous lentil porridge is made by the peasants in Italy today. It was generally placed on a tripod, but might stand directly over the fire. Probably Romulus's dinner of boiled turnips,[1] which he is

[1] Seneca, *Apocolocyntosis Divi Claudii*, 9.

represented as enjoying even in the heavens, was cooked in such a pot. In the days of Juvenal,[1] it was used by the peasants both for cooking and serving. Martial calls it *rubra testa.*[2] "If the pale bean," says he, "boils for you in a red earthen pot (*rubra testa*) you may scorn the tables of rich patrons." The same author mentions this vessel again in connection with porridge.[3] Apuleius[4] writes of a pretty kitchen maid, Fotis, who prepared *mellitum pulmentum* in a little olla, *ollulam.* In our one surviving Roman cook book, Apicius *de re coquinaria,* this utensil is called *olla* or *caccabus.* Many are the things therein referred to, which are cooked in it,[5] among others, fish, porridge, beans, peas, fowl, pork, and rabbit.

The great majority of the cooking utensils in the Royal Ontario Museum were found in Egypt. Near Thebes, in what appeared to be the remains of a burnt house, a rather complete kitchen equipment was discovered. This set belongs to the Walter Massey collection and contains twenty-seven pieces of bronze in an excellent state of preservation, with a beautiful green patina. The quality and the number of the pieces indicate that they come from a rather pretentious establishment, and Professor Currelly calls them "The Cooking Utensils of a Rich Man's House." The vessels are cast and the sheet of the metal is quite thin. Their date is probably the early period after the Roman occupation of Egypt. It is interesting to note that all are designed for stewing or boiling. In this connection, one recalls the statement of Celsus, that food is more digestible when boiled than when fried or broiled. It is also interesting to observe that the small size of these vessels does not indicate that the Romans were gourmands.

[1] Juv. *Sat.* XIV, 169 ff.

[2] *Epigrams,* XIII, 7.

[3] *Epigrams,* XIII, 8.

[4] *Metamorphoses* II, 7.

[5] Cf. Apic. II, 41; II, 45 *hidrogarata isicia;* III, 68 *Aliter cucurbitas;* IV, 134; IV, 135; IV, 154 *Pisces frixos;* IV, 160 *Mullos;* IV, 161 *Aliter mullos;* V, 185 *Pultes;* V, 186 *Pultes;* V, 188; V, 190 *Lenticulam;* V, 191 *Lenticulam de castaneis;* V, 194 *Pisam farsilem;* V, 195; V, 201 *Pisam sive fabam;* V, 203 *Conciclam apicianam;* V, 205, 206, 207 *grue;* VI, 213 *In grue vel anate, perdice, turture, palumbo, columbo, et diversis avibus . . . ornas et includis in ollam . . . levas et iterum in caccabum mittis;* VI, 216 *Aliter gruem vel anatem ex rapis lavas, ornas et in olla elixabis cum aqua . . . levabis de olla;* VI, 219; VI, 234 *In fenicoptero, fenicopterum eliberas . . . ornas, includis in caccabum;* VI, 251 *pullum in caccabum;* VII, 319 *Tubera radis . . . mittis in caccabum* VIII, 386 *Porcellum . . . in ollam mittes;* VIII, 399 *Aliter leporem.*

There is also a bronze counterpart (G. 1693) of the terra-cotta bowl just mentioned above, which was used for a similar purpose. The height is $6\frac{1}{2}$ inches; diameter at mouth, 8 inches. There is a smaller utensil of similar shape (G. 1694) in the same collection.

In this collection, also, are three kettles with swinging handles (G. 1700, G. 1715, G. 1716). Each of the handles is bent into a ring at the top so that the caldrons might be hung on a crane, or, to satisfy the Roman sense of order, on the wall when not in use. At the ends, the handles are bent into loops which fit into attachments riveted to the sides of the caldrons. The rivets are very simple—a piece of metal put through the kettle and hammered flat on either side. G. 1700, the largest of these kettles (Fig. 1), is pear-shaped and is the only one of the three that has a lid. One end of the handle is broken. In the centre of the lid a ring has been fastened, and to this ring a chain of four links is attached. This is part of a chain which was probably originally fastened to the swinging handle, or its attachments, so that the lid might not be lost. This is the arrangement on a Greek caldron of earlier date,[1] about the middle of the sixth century, B.C., and on kettles in the Naples Museum (Nos. 24172, and 24173). The dimensions of this kettle are: height with handle $13\frac{1}{4}$ inches, height without handle 8 inches, diameter at top $5\frac{1}{4}$ inches, girth at widest part $23\frac{7}{8}$ inches.



FIGURE 1.—BRONZE KETTLE WITH LID: TORONTO.

G. 1715 (Fig. 2) is slightly smaller and has no lid. Dimensions: height with handle $12\frac{3}{4}$ inches, height without handle $7\frac{9}{16}$ inches, diameter at mouth $6\frac{7}{8}$ inches, circumference around widest part 24 inches. This kettle shows an interesting bit of ancient mending. The bottom of the pot evidently burned out. Then a disc of bronze of the exact diameter of the bottom was placed on the

[1] Cf. Miss Richter, *Metropolitan Museum, Greek, Etruscan, and Roman Bronzes*, fig. 621.

inside and soldered with soft solder in such a way as to make the kettle water-tight again. The solder has disintegrated and the disc is now loose but still in the kettle.

G. 1700 and G. 1715 belong to the class of utensils which bear the name *aeneum*, or the more general word for cooking pot, *caccabus;* but G. 1716 is probably a *situla*[1] or kettle for holding hot water, rather than a pot for cooking. Dimensions: height without handle 6¼ inches, diameter at mouth 6⅝ inches. It had, originally, three feet, which were soldered on, but one is now missing. These feet served the purpose of preventing the hot surface of the bottom of the vessel from coming in contact with the stand or table on which it was placed.



FIGURE 2.—BRONZE KETTLE: TORONTO.

It may be interesting, also, to note in passing a few caldrons which, though not included in this excellent group, are somewhat similar to those which we have been discussing. G. 2024, of bronze, was found in upper Egypt. Dimensions: height without handle 7½ inches, diameter of top 5 inches, girth of widest part 20¼ inches. It is probably of later date.

Another bronze kettle found in Upper Egypt (G. 2036), has the swinging handle attached in the usual way. This vessel has a very small mouth and must have been used for cooking soup or small vegetables. Dimensions: diameter 3¼ inches, height with handle 11 inches. Another small bronze caldron which was found in Egypt shows still another method of attaching a swinging handle. The handle has disappeared but sockets are left in the sides of the kettle.

Another interesting utensil in this collection of bronzes from

[1] A *situla* of different shape but with feet similarly attached is shown in *Arch. Anz.* XV, 1900, p. 188, fig. 14, among other bronzes from Boscoreale, published by Erich Pernice. Three *situlae* with somewhat similar feet, three each, are given by Willers, *Neue Untersuchungen über die römische Bronzeindustrie,* taf. V, 1–3.

Thebes is a large pail with a lid (G. 1714).[1] The rim of the lid, which fits over the outside of the kettle, is slightly warped. Dimensions: diameter at top 9¼ inches, height without handle 8⅞ inches.

That the strainer, or colander, was a utensil often used in the Roman kitchen is shown by frequent reference to it in the recipes of Apicius *de re coquinaria*. G. 1717 (Fig. 3), in "The Cooking Utensils of a Rich Man's House," is an example of a beautiful bronze colander. Dimensions: diameter of bowl 7½ inches, length 14⅛ inches. The handle, upon which a lotus design has been incised, ends in the head of a bird.[2] The holes in the bowl are somewhat rudely punched, and do not form a fancy design as is so often the case in colanders. Strainers served for straining wine and other liquids. Snow, the ancient substitute for ice, was placed in the colander, and wine poured through to cool it. Martial[3] mentions a *colum nivarium*, and says that it was to be used for Setine wine. A cheaper variety might be strained through linen. Willers[4] shows a series of articles which belonged to the wine service. They are in pairs; a vessel which looks like a saucepan, a strainer with a rim which exactly fits into the saucepan. The strainers are rather similar to the one which has just been described in the Royal Ontario Museum. It is possible that our strainer, as the flat handle and extended rim suggest, may belong to such a set, and that the vessel into which it fitted has been lost. These utensils appear to have been manufactured in large numbers in the Capuan factories from the days of Augustus to 250 A.D. However, as there are in the Museum of



FIGURE 3.—BRONZE STRAINER: TORONTO.

[1] It resembles somewhat a vessel in Schumacher's *Sammlung antiker Bronzen*, pl. IX, fig. 21. He considers it a vessel for water.

[2] Cf. Walters, *Catalogue of Bronzes in the British Museum*, p. 83, No. 573, a strainer which has a lotus flower on the handle.

[3] *Epigrams*, XIV, 103.

[4] *Op. cit.*, p. 82 ff.

Cairo[1] two strainers which are almost the exact counterparts of the one in the Royal Ontario Museum of Archaeology, and as there is no real evidence that they belonged to such a set, it is rather more probable that this too is complete in itself.[2] As was said, recipes in Apicius recommended the use of a colander in preparing foods and this utensil was no doubt used in cooking, as well as in straining wine.

That the man who owned these bronzes was interested in good wine as well as in good cooking is shown not only by the strainer, but also by two beautiful bronze ladles, each ending, as was usual for ladles, in the head of a bird. One (G. 1701) is $20\frac{5}{8}$ inches long; the other (G. 1702) is 19 inches long. Ladles such as these were used for dipping wine or other liquids from deep receptacles. The type which G. 1701 and G. 1702 represent is quite common and seems to have enjoyed a long period of popularity. As Miss Richter has observed,[3] one is seen in actual use on a red-figured cylix signed by Brygos,[4] and ladles of the same shape have been found at Pompeii.[5] Another most interesting ladle of somewhat the same type, though not belonging to the same set, is G. 1537 (Fig. 4), which was also found in Egypt, near Thebes. This, like the two just mentioned, has a deep bowl and a long handle terminating in the head of a bird, but unlike them, and unlike any I have been able to discover with certainty, it has a four-sided extension handle. The extension was probably to give added strength when great length was not needed; for the long slender handles characteristic of and necessary for wine ladles must have been a point of weakness. This ladle is of bronze,

[1] *Catalogue général des antiquités égyptiennes du Musée du Caire*, Nos. 3559 and 3575. Each has a lotus design incised on the handle. 3559 was also found at Thebes.

[2] Another type of strainer is in the Metropolitan Museum of Art, New York (cf. Miss Richter, *op. cit.* No. 639). It is smaller and has opposite the handle a hook-shaped projection terminating in a small oblong plate. This projection served two purposes: as a means of resting the strainer across the mouth of the jar into which the wine was poured, and for hanging it from the lip of the jar when not in use. Another of this type was published by H. L. Wilson in the *American Journal of Philology*, XXVIII, pp. 450 ff. It was dedicated to a goddess, as an inscription shows. Still another bronze strainer of this style, from Viterbo, was recently acquired by the Royal Ontario Museum in the Sturge collection. The type is comparatively rare, and seems to belong only to central Italy, especially Etruria.

[3] *Op. cit.* No. 652.

[4] Cf. *Monumenti dell' Instituto* IX, pl. 46.

[5] Cf. J. Overbeck, *Pompeii*, p. 444, fig. 241.

and in an excellent state of preservation. It has the eye of a bird and a small design incised on the handle. Dimensions: length when shortened 14 inches, handle 11¾ inches (extends 5 inches when lengthened), diameter of bowl 2⅛ inches. The *Catalogue of Bronzes in the British Museum*, p. 322, gives a ladle with a wide hinged handle, No. 2466.[1]

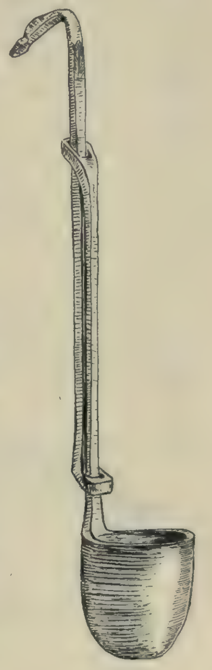


FIGURE 4.
LADLE WITH EXTENSION HANDLE: TORONTO.

Among "The Cooking Utensils of a Rich Man's House," there are also examples of two short bronze ladles with shallow bowls. G. 1723, length 8⅛ inches; and G. 1703, length 7½ inches.

In addition to the articles which have already been noted from this most unusual set of bronzes, several others may be mentioned. G. 1691 is a vase 9 inches high, designed probably to contain wine or oil. G. 1692, a beautiful bronze pitcher, has a rather elaborate handle soldered on, height 7⅞ inches. There are also two lamp fillers (G. 1721, and 1724), of which one has lost its spout; the legs of a couch (G. 1698, 1, 2, 3, and 4); and three tiny vases (G. 1699, 1720, and 1722). Of special interest are three small utensils (G. 1718, 1695, and 1696) which, like our kitchen cups, were probably used for measuring, as they seem to correspond almost exactly to the Roman system of measures. One contains approximately a half pint, *hemina* or *cotula* as it was called; another holds approximately one fourth of a pint, a Roman *quartarius;* and the third, one sixth of a pint, two Roman *cyathi*. One reason for believing that these were kitchen measures is the fact that in many of the recipes in Apicius the quantity of the ingredients is frequently mentioned,[2] and there must, therefore, have been measures in the Roman kitchen.

[1] *The Catalogue général des antiquités égyptiennes du Musée du Caire*, II shows a bronze ladle, No. 3567, with a handle in two parts. The illustration is not clear, but the description indicates that this ladle is like ours.

[2] Apic. I, 1 *praemissis vini sextariis duobus;* I, 3; I, 7 *mellis sextarium mittis;* II, 46 *liquaminis quartarium;* II, 48; III, 105; IV, 124; IV, 129, *liquaminis ciatum unum;* IV, 145; IV, 169; VI, 244 *olei acetabulum;* VII, 268; VII, 274; VIII, 392; etc.

This collection, then, gives us a fair idea of the contents of a Roman kitchen. One may imagine a small room, for the kitchen usually was small, located in an unobtrusive part of the house with shining utensils of bronze hanging on the walls, or placed on tripods over the hearth of masonry. There would probably be also an arrangement for heating water, and terracotta amphoras in which wine, oil, and grain were stored. To complete the picture, one must add the cook, who, if one may believe Plautus, was usually armed with a knife and was witty and thievish. According to Martial, his locks were smeared with grease and soot. However, this collection, even in its completeness, omits many articles which were found in an ancient kitchen. As has been noted, the utensils found in it were designed for boiling, and no kitchen, ancient nor modern, would be complete without a frying-pan. The Royal Ontario Museum of Archaeology is very fortunate in including in the Walter Massey collection a series of unique frying-pans with folding handles, which were found in upper Egypt and belong to the late Roman period. The Latin name for frying-pan as given in Apicius is *sartago*.[1] This name was applied to a flat pan of bronze or iron, round or oblong in shape, which was used for frying meat or fish, or for heating oil, which was an important ingredient of ancient cookery. Isidorus[2] tells us that the pan took its name from the noise which the oil made when heated.

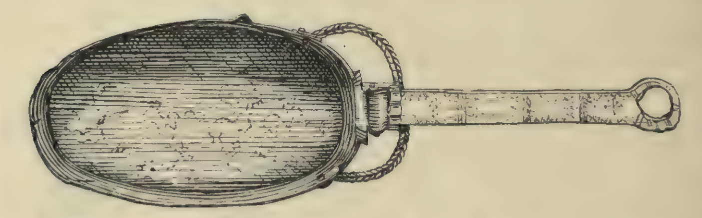


FIGURE 5.—FRYING-PAN WITH MOVABLE HANDLE: TORONTO.

The four pans in the Royal Ontario Museum of Archaeology (G. 675, 676, 677, and 678) were brought from Egypt in a mass of rust, which was cleaned away by an electrical process. They are of exceedingly fine workmanship and are rather elaborately decorated (Fig. 5). The iron has been hammered into a very thin

[1] Apic. VII, 269 *Aliter ofellas in sartagine abundanti oenogaro;* VII, 270; *Ponis ofellas in sartagine.*

[2] *Or.* XX, 8, 5.

sheet of metal so that the surface reminds one at once of the hammered silverware which comes from Tiffany's workshops, or of hammered brass. The metal of the handles is several times as thick as that of the pan itself, which is quite thin. In two cases, the handle is reinforced by pieces of twisted iron, ornamental as well as useful, which are riveted to the pan and to a projection at the back.

These handles, which are so made that they may be folded over the top, are the most interesting feature of the pans. They are attached by a hinge (Fig. 6) which is very simply constructed. At one end of the pan there was left a pointed projection wide at one end. The sides of this projection were turned up and holes cut in them. The handle ends in a scroll which was made by turning under the end of the metal. This scroll was placed between the sides of the projection, where it exactly fits, and an iron pin was passed all the way through and hammered flat at either end. Encircling each handle, there is a movable bracelet which may be brought down over the point of the tip at the end of the pan, to hold the handle firmly in place when extended. In three cases, these bracelets end in a double scroll on the upper side of the handle, and hence are ornamental as well as useful. In the fourth case, the bracelet is loose and not artistic. The fact that the handles fold over the pans and that the pans were found with other military remains, suggests that they were a part of a military equipment, and that they were thus designed in order to make the soldier's kit more compact. Frying-pans similar in shape to these but with fixed handles are fairly common. They have been found at Pompeii and elsewhere, and may be seen in many museums.[1]

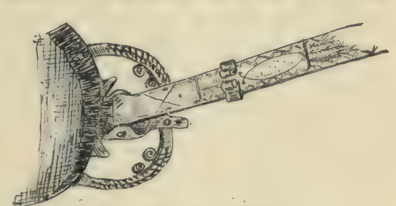


FIGURE 6.—HINGE OF HANDLE OF FRYING-PAN: TORONTO.

However, specimens of frying-pans with folding handles are almost unique. I have been able to find reference to only one other which is quite similar to those in the Royal Ontario Museum of Archaeology.[2] It is of bronze, and was first published by M.

[1] Guhl and Koner, *Das Leben der Griechen und Römer*, fig. 907; Kelsey Mau, *op. cit.*, fig. 196; Overbeck, *op. cit.*, fig. 241; Naples, *Real Mus. Borbon.* V, pl. 58, Nos. 8 and 9; Ceci, *Piccoli Bronzi del Real Mus. Borbon.* pl. I, Nos. 24 and 25; Tarbell, *Cat. of Bronzes in Field Museum*, p. 136, No. 228.

[2] Cf. H. Willers, *op. cit.* p. 65.

Maxe-Werly in the *Mémoires de la Société Nationale des antiquaires de France*, 1883, p. 274. It was found a few months previous to this publication, says Maxe-Werly, at Rheims, and was, at the time of publication, the property of M. Leon Foucher. Dimensions: width 12 cm., length 25 cm., depth 3 cm. It has a small lip at one side. This pan bears an inscription T E (in monogram), T. TRI (in monogram), C. O. The publisher calls attention to the fact that it resembles the model which was adopted for the mess of the officers of the army in his own day, and he thinks that the ancients used it for a similar purpose. The type seems to have persisted in the army even to our own day, as a somewhat similar frying-pan in aluminum, which served as both cooking utensil and plate, formed a part of the American soldier's outfit for the recent war. The bronze pan found at Rheims and the four in the Royal Ontario Museum are, so far as I know, the only ancient examples of oblong frying-pans with folding handles. Maxe-Werly, in the article just cited, mentions the existence in the museum at Vienna of a similar utensil, round in form. Among the twenty-two Coptic utensils which were presented to the Field Museum of Natural History in Chicago in 1894 by Ali Effendi Murad, American Consular Agent, at Luxor, Egypt, is an oblong iron frying-pan with folding handle. This is somewhat similar to those in the Royal Ontario Museum.

The bronze frying-pan which was found near Rheims has no decoration, but the handles of three of those in the Royal Ontario

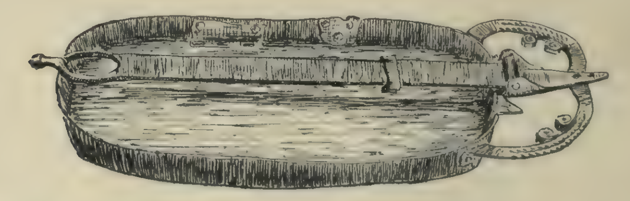


FIGURE 7.—MENDED FRYING-PAN, HANDLE BENT OVER: TORONTO.

Museum of Archaeology are rather elaborately decorated with incised lines. On two, a fish has been incised. Moreover, the arrangement of the lines incised on all of these handles seems to have been taken from a motif which was suggested by the backbone, tail, head and eyes of a fish. One of the pans (G. 676) has a lip for pouring out gravy (Fig. 5). With one exception, the pans are in an excellent state of preservation. One, however, has several large holes

which have been eaten into it by rust. This is the plainest of the four and probably the oldest. Another (G. 677) shows in two places an interesting example of ancient mending. Two very thin sheets of metal were put on the inside of the pan and riveted through (Fig. 7). A similar instance of ancient mending is found on a bronze pan at Vassar College. The dimensions vary somewhat. G. 678, entire length including handle, 23¼ inches, length of pan 10¾ inches, width 6½ inches, depth ⅞ inch; G. 677, entire length 26 inches, pan 12 inches by 7⅜ inches; G. 676, entire length 26¼ inches, pan 13¼ by 7¼ inches, depth 1¼ inches; G. 675, entire length 25¾ inches, pan 11½ inches by 7⅜ inches, depth 1¼ inches.

Near Thebes, in the same locality where the frying-pans were discovered, there were found also two other utensils (G. 646 and 647), which at first sight look like trays and may possibly have

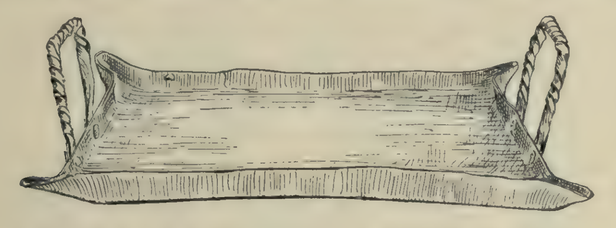


FIGURE 8.—PAN FOR BAKING OR FRYING: TORONTO.

been used for this purpose, for, as we know, each course of a Roman *cena* was brought in on a tray. These utensils, however, are of hammered iron, while the trays which are mentioned in Latin literature are of silver, or wood. This fact, and the presence of lips at the sides of one of these utensils, and at the corners of the other, indicate that they, too, were pans for baking or frying, or perhaps were used for fish sauce. G. 647 (Fig. 8) has lips at the four corners. Its length is 12⅞ inches, width 7 inches, depth ⅞ inch, height of handle from point of attachment 3 inches. The state of preservation is exceedingly good. One might think that the lips of this vessel were an accident due to the fact that it was simpler to make a pan which consists of a single sheet of metal this way than any other, but this cannot be true in the case of the other utensil, as the lips are carefully wrought at the sides. G. 646 (Fig. 9) has the following dimensions: length 15⅝ inches, width 7¾ inches, depth 1 inch, height of handle 3⅛ inches. The state of preservation is good. The

handles are of twisted iron and are riveted on. A rivet at one end seems to indicate mending. An extra piece of metal has been put on the inside of the pan. Both the workmanship and ornamentation indicate that these pans were probably made by the same smith as the four with folding handles. At least, they belong to the same period. The Museum contains also a tiny round toy frying-pan.

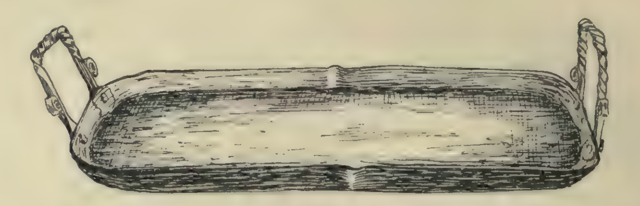


FIGURE 9.—PAN FOR BAKING OR FRYING: TORONTO.

From the same locality whence came the two sets of pans come also seven iron ladles (G. 699, 700, 701, 702, 703, 704, 705). They are of varying sizes, but the surface of the metal and the style of decoration on the handles point to the probability of the same smith's shop in which the frying-pans, the keys, axes, and other iron utensils in this collection were probably made. Each ladle, including the handle, is made of one sheet of iron hammered out. The handles, with one exception, contain holes for suspension. This ends in a point and has another piece of iron riveted at right angles about one inch from the end. All of the handles are decorated with incised lines or dots. The use of these ladles is somewhat uncertain. They may have been employed in cooking, or the soldiers may have used them for melting lead.

Dimensions

G. 699,	length	$11\frac{5}{8}$	inches,	diameter	of	ladle	$4\frac{1}{8}$	inches	;
G. 700,	"	$16\frac{7}{8}$	" ,	"	"	"	$4\frac{7}{8}$	"	;
G. 701,	"	$17\frac{1}{2}$	" ,	"	"	"	$5\frac{7}{8}$	"	;
G. 702,	"	$15\frac{5}{8}$	" ,	"	"	"	$4\frac{1}{8}$	"	;
G. 703,	"	$14\frac{3}{4}$	" ,	"	"	"	5	"	;
G. 704,	"	$16\frac{5}{8}$	" ,	"	"	"	$4\frac{5}{8}$	"	;
G. 705,	"	$14\frac{7}{8}$	" ,	"	"	"	5	"	;

Not only were frying-pans used for cooking small pieces of meat, and spits[1] for roasting whole the boar which formed the most important feature of a Roman banquet, but another utensil

[1] Verg. *Aen.* I, 211 ff.; Juv. *Sat.* XV, 81 and 82; Verg. *Aen.* V, 102 and 103.

also, the gridiron, *craticula*, served for roasting and broiling meat. Martial[1] mentions both of these instruments. He says:

Rara tibi curva craticula sudet ofella;
Spumeus in longa cuspide fumet aper.

At the *cena Trimalchionis*,[2] one silver *craticula* contained smoking sausages, and on another the chef served snails. The more usual materials for this utensil were, however, bronze and iron. In the Royal Ontario Museum, there is a most interesting example of an iron *craticula*, G. 1383 (Fig. 10), which was discovered on Hannibal's battle field at Lake Trasumenus, and which may have been used by the soldiers there. It has eight prongs branching from a central stem. Three of these are broken at the end. The iron socket into which a wooden handle was fitted is partly eaten away by rust, and the whole instrument is much corroded. This gridiron differs somewhat from the ordinary type[3] in that it has no transverse rod to reinforce it at the outer end. Dimensions: length with handle 22 inches, without handle 16 inches; width from outer end 8, 7, $5\frac{1}{2}$ inches. Walters, *Catalogue of Bronzes in the British Museum*, gives, under late Etruscan bronzes, No. 783, a gridiron (?) which, like the one in the Royal Ontario Museum of Archaeology, had a socket for a wooden shaft.



FIGURE 10.—ROMAN GRIDIRON FROM LAKE TRASUMENUS: TORONTO.

Another interesting iron kitchen utensil in the Royal Ontario Museum of Archaeology (G. 577) is a meat hook (Fig. 11), Latin *harpago*, Greek *κρεάγρα*, which was doubtless used for taking meat from the pot, although various theories have been given for its function. It had a Greek origin, and Helbig identi-

[1] Mart. XIV, 221.

[2] Petron. *Sat.* 31 and 70.

[3] Cf. Daremberg and Saglio, *Dictionnaire des Ant. Gr. et Rom.*, fig. 2049; Miss Richter, *op. cit.* fig. 666 for a gridiron which, though of much earlier date, middle of sixth century B.C., is of the more usual type. This has eight transverse rods and four feet.

fies it with the Homeric πεμπώβολον, but this has been disputed. An iron fingered flesh hook is described by the scholiast on Aristophanes[1] as an instrument resembling a hand with fingers bent inward, which was used to take meat from a boiling caldron. Specimens in bronze are found in the British Museum[2] and other museums. One of these has the prongs formed of seven radiating snakes' heads instead of seven plain hooks. Utensils of this kind, employed for the purpose stated, are represented in red-figured vase paintings.[3] Many of these hooks have been found in Etruria. Our specimen, which was discovered in the Fayum and belongs to the Walter Massey collection, is 15¾ inches long. It differs somewhat from the usual type in several ways. In the first place, extant examples are oftener of bronze than of iron. Sometimes both metals were combined in the same instrument. Then, too, frequently the number of prongs is five, which points to the origin of the design of the instrument from the five fingers of the hand. The handle, too, frequently ends in a hollow shaft, into which a wooden handle seems to have been fitted, rather than in a ring for suspension. In many instances, the centre is a ring from which the prongs radiate. They are not riveted on, as in our specimen. Its handle is extended to a point. To this are fastened by rivets, at angles to each other, three narrow pieces of iron hooked at both ends. In both workmanship and decoration, this flesh hook resembles closely the Egyptian frying-pans and ladles. Incised lines are used for decoration and the handle is twisted and ends in a scroll into which a ring is fastened. This is exactly the principal of the hinge for the handle of the frying-pans. G. 579 is a three-pronged iron fork 9½ inches long, and 2 inches wide, which was probably used in cooking. Daremberg and Saglio, *Dictionnaire des antiquités grecques et romaines*, under *fuscinula*, say that this name, though found only in the Vulgate,



Figure 11.—Meat Hook from Fayum: Toronto.

[1] *Equit.* 772.

[2] Walters, *op. cit.* Nos. 784, 784_2, 783_3, 784_4.

[3] Cf. Miss Richter, *op. cit.* No. 665.

was applied to a little fork with three teeth, for kitchen use only, as the Romans had no forks for eating.

Perhaps no other cooking utensil is mentioned more frequently in Latin authors than the knife, although the Romans knew nothing of its use at table, except as a carving knife. From the days of Plautus down, the cook is regularly represented as armed with this weapon,[1] his attribute, so to speak, which he uses as the occasion demands. Plautus makes Congrio say that it is a fitting weapon for a cook, and a culinary artist, Machaerio, in the *Aulularia* receives his name from this necessary kitchen utensil. In the *Miles Gloriosus*,[2] the following command is addressed to the chef Cario: "*Culter probe.*" The cook in Petronius[3] seizes his knife and slashes a pig, and in the *Testamentum Porcelli* Magirus cocus says: "*Transi puer, affer mihi de cocina cultrum ut hunc porcellum faciam cruentum.*" The cook in Apuleius[4] begins sharpening his knives to slay an ass. The Royal Ontario Museum possesses several specimens of this kitchen utensil, which were found in the Fayum, Egypt, and date from the Roman period, the first to the third century A.D. The handles are wooden, the blades iron, and are decorated in some cases with incised lines in designs similar to those found on the frying-pans. One has an inscription. In some cases there are iron bracelets for holding fast the wooden handles. The length of the knives varies from 9 to 13½ inches.

With the knives may be mentioned also an iron instrument which I think was a meat mincer, G. 652 (Fig. 12). It resembles

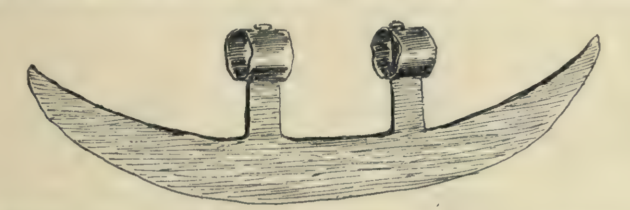


FIGURE 12.—MEAT MINCER FROM UPPER EGYPT: TORONTO.

closely certain kitchen utensils of modern days. It was found in upper Egypt, and consists of a somewhat crescent-shaped blade of iron with two uprights. Rings of iron, through which a wooden

[1] *Aul.* 417.
[2] Plaut. *Miles,* 1397.
[3] Petron. *Sat.* 49.
[4] *Metamorphoses* VIII, 31.

handle, now missing, once passed, were riveted to this piece. The state of preservation is good. The space between the rings is just large enough for the hand grasp. Dimensions: length 11¼ inches, depth 3½ inches, blade 1 inch wide, width between rings 3¼ inches. One wonders if the kitchen maid Fotis whom Apuleius[1] mentions may not have been using such an instrument. He says: "*Suis parabat viscum fartim concisum et pulpam frustratim consectam.*"

Not only was a large mortar used for crushing grain[2] which was to be made into bread, but from the recipes in Apicius *de re coquinaria* we know that a smaller mortar for pounding pepper and other condiments was a necessary kitchen utensil. Of the large mortar, the Royal Ontario Museum of Archaeology shows several examples, one of black basalt which was made for that purpose, and a marble Corinthian capital which was hollowed out and used as a mortar. There are also several very interesting small mortars which were probably used for condiments, or, possibly, for medicine. One (G. 1641) is of stone and has had a small piece broken out on one side. It comes from the Fayum, Egypt, and is 5¼ inches in diameter. Another is of basalt and is similar in material and shape to the large basalt mortar. Plautus tells us that neighbors were wont to borrow mortars from each other. Many recipes in Apicius[3] bid the cook pound pepper and dry mint, ginger, coriander, anise seed, or rue. Indeed, *adicies piper in mortarium, fricabis* or *teres* is a very common refrain in Apicius. Many references to the *mortarium* may be culled from that ancient cook book.

[1] *Metamorphoses* II, 7.

[2] Plaut. *Aul.* 95.

[3] Apic. III, 98. . . . *In mortario teres piper ligisticum origanum, cepam, vinum, liquamen et oleum;* III, 99. . . . *In mortario teres piper, ligisticum api semen, mentam siccam, cepam, liquamen, oleum, vinum;* I, 41, *Adicies in mortarium piper, ligisticum, origanum, fricabis in se, commisces in caccabum;* III, 67 . . . *adicies in mortarium piper et ciminum, silfi modice (id est lasaris radicem) rutam modicam;* III, 98 . . . *in mortario teres piper*, etc.; IV, 117, *Aliter sala cottabia apiciana; adicies in mortario api semen, puleium aridum, mentam aridam, gingiber, coriandrum viride*, etc.; IV, 118, *adicies in mortarium piper, mentam, alium coriandrum viride, caseum bubulum, sale conditum aquam, oleum, in super vinum et inferes;* III, 99 . . . *in mortario teres piper*, etc.; IV, 125. *Patina de asparagis frigida accipies asparagos purgatos, in mortario fricabis, aqua suffundes perfricabis, per colum colabis, et mittes ficetulas curtas. Teres in mortario piperis scripulos VI, adicies liquamen, fricabis vini ciatum*, etc., etc.

Roman recipes sometimes give the weight of the ingredients to be used in *librae* (pounds), *unciae* (ounces), and *scripuli* (scruples), and so one may perhaps include in a collection of cooking utensils the two ancient instruments for weighing, *librae*, balances and *staterae*, steelyards, examples of which are preserved in most museums. The Greeks seem to have used the balances only, and representations are fairly frequent in Greek art. The use of balances is illustrated by a Greek vase with a design showing Hermes weighing the souls of Achilles and Memnon, and by a Roman lamp[1] representing a stork weighing an elephant and a mouse. On an amphora of Taleides reproduced in *Wiener Vorlegeblätter*, 1889 (taf. V, I, c,) there are balances suspended and men weighing. A scene on a Cyrenaic cylix, which was found at Vulci in Etruria, and is now in the Bibliothèque Nationale, Paris, probably represents Arcesilas II presiding at the weighing of silphium on balances suspended from the wall. That the Egyptians also made use of balances in weighing is shown by a picture on a mummy case in Toronto.

The Royal Ontario Museum has an excellent example of small balances which come from Upper Egypt and belong to the late Roman period (G. 648). It is of iron and consists of a horizontal bar with rings at either end to which were attached chains which extended to the two circular pans. The chains are missing but the pans have four holes each showing where they were attached. A vertical piece of iron extends upward from the centre of the horizontal bar. To this is attached by a rivet an iron loop which swings freely and which has a ring in the upper end. Dimensions: diameter of pans $4\frac{7}{8}$ inches, length of horizontal bar $16\frac{1}{2}$ inches, height of vertical piece $1\frac{3}{8}$ inches, height of loop $2\frac{3}{4}$ inches. This is perhaps the simplest and most common form of the *libra*. In *Notizie degli Scavi*, V, 1908, p. 280, is recorded the discovery, August 19, 1904, of balances with an upright standard, so that, instead of being suspended, they could be placed erect on a table or shelf by means of this standard. The crossbar rested on a standard with a square base.[2]

The instrument for weighing which was more popular with the Romans than the balances, however, was the *statera* or steelyards,

[1] Cf. British Museum, *Guide to Exhibition Illustrating Greek and Roman Life*, p. 161.

[2] Cf. also *Mon. Ant.*, Vol. 21, p. 6, 1912, for an article on *Librae Pompeianae* by Matteo della Corte.

which was practically of the same type then, as at the present day. It has been suggested[1] that its portability made it especially desirable to hawkers and street sellers, then as now. It consists usually of a bar divided into two unequal parts. On the longer of these, there is a scale which may be marked on one or more of the several faces. Along this portion of the bar, a movable weight may be suspended, which is prevented from sliding off by a knob at the end. The shorter portion of the bar has several hooks attached. The Royal Ontario Museum possesses two good specimens in bronze of the *statera*. One (G. 1679) was bought from a dealer in Rome. The length is 13 inches, length of scale $8\frac{3}{4}$ inches, length of shorter part of rod $4\frac{1}{4}$ inches. The rod is of square section but only three faces are marked. Three hooks were attached at intervals to the shorter portion of the rod, the first at the beginning of this shorter portion, the second $2\frac{1}{4}$ inches away, and the third $\frac{7}{8}$ inch from the second. Only one hook is now in place, one is missing, and one is broken off. The sliding weight in the form of a man's head is exactly 8 ounces.

The second specimen in the Royal Ontario Museum (G. 642) was found in Egypt and is very similar to those just described. The rod is of bronze, but the hooks are of iron. The scale is marked on three faces. As has been said, many of the recipes in Apicius give the weight of the ingredients in pounds, ounces and scruples.[2]

These examples, though not exhaustive, are, I think, sufficient to show that a Roman chef might equip his kitchen quite satisfactorily to-day from the collection of cooking utensils in the Royal Ontario Museum.

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TORONTO.

[1] British Museum, *Guide to the Exhibition Illustrating Greek and Roman Life*, p. 161.

[2] Apic. I, 29. *Sales conditos ad multa . . . sales communes frictos lib.* I, *sales ammonicos frictos lib. II, piperis albi unc, III, gingiberis unc. II, ammeos unc. I, semis, timi unc. I, semis, mittere nolueris, petrosilini mittis unc. III, origani unc. III, erucae seminis unc. 1, semis, piperis nigri unc. III, croci unc. I, isopi cretici unc. II, foli unc. II, petrosilini unc. II, aneti unc. II. Ibid.* I, 46. *In isicia de pullo; olei floris lib. I, liquaminis quartarium, piperis semunciam. Ibid.* III, 105. *Et ne lactucae laedant: cimini unc. II, gingiberis unc. I, rutae viridis unc. I, dactilorum pinguium scripulos XII, piperis unc. I, mellis unc. VIIII . . . dimidium cocleare cum liquamine et aceto modico misces aut post cenam dimidium cocleare accipies*, etc., etc.